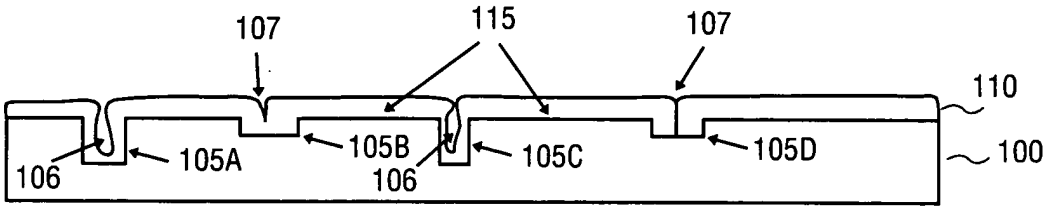

FIG. 1A
(PRIOR ART)

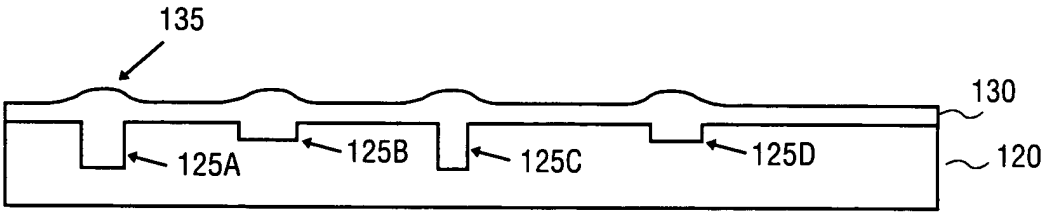

FIG. 1B
(PRIOR ART)

Electroplating Solution Component	Concentration
Sulfuric Acid	10g/L
Copper	40g/L
Chloride	50mg/L
Accelerator	1.5mL/L
Leveler	8mL/L
Suppressor	3.3mL/L

Low-Acid Electroplating Solution

FIG. 2
(PRIOR ART)

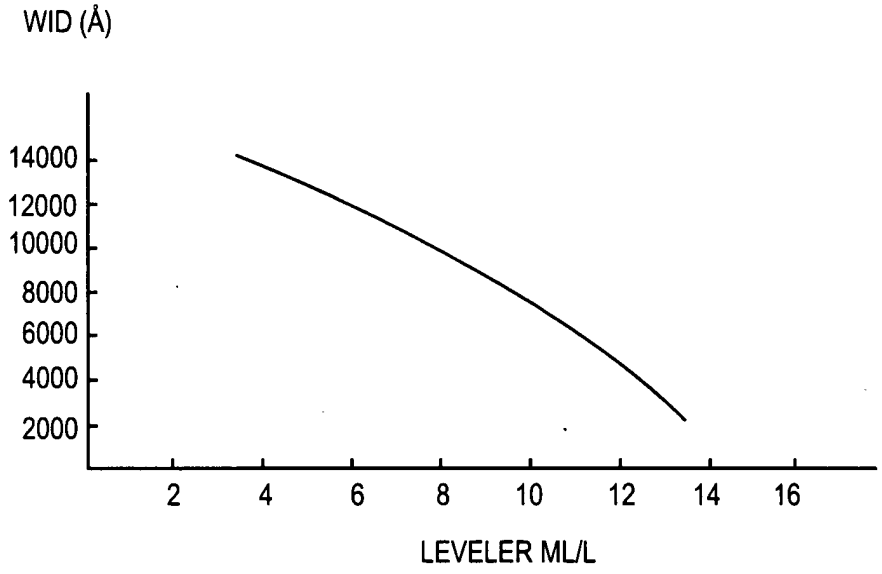
WID (Å)
14000
12000
10000
8000
6000
4000
2000
2
4
6
8
10
12
14
16
LEVELER ML/L

FIG. 3

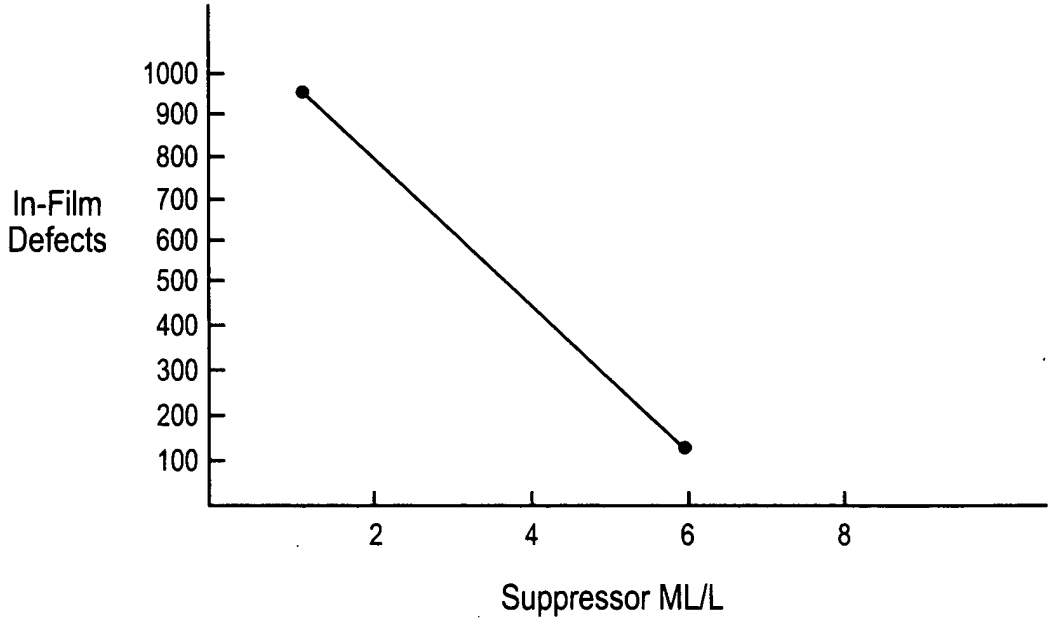
In-Film Defects
1000
900
800
700
600
500
400
300
200
100
2
4
6
8
Suppressor ML/L

FIG. 4

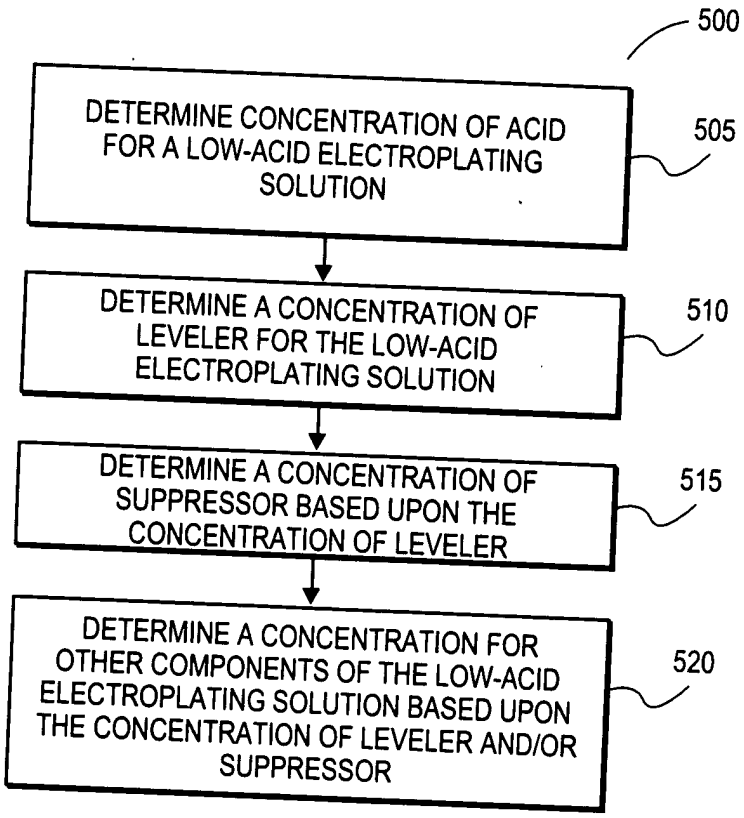
500
DETERMINE CONCENTRATION OF ACID FOR A LOW-ACID ELECTROPLATING SOLUTION
505
DETERMINE A CONCENTRATION OF LEVELER FOR THE LOW-ACID ELECTROPLATING SOLUTION
510
DETERMINE A CONCENTRATION OF SUPPRESSOR BASED UPON THE CONCENTRATION OF LEVELER
515
DETERMINE A CONCENTRATION FOR OTHER COMPONENTS OF THE LOW-ACID ELECTROPLATING SOLUTION BASED UPON THE CONCENTRATION OF LEVELER AND/OR SUPPRESSOR
520

FIG. 5